

1. I claim:

*An improved beam*

1. ~~A beam~~ member, comprising:

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- a) a pair of longitudinally extended and opposing flanges each of which are comprised of a central web section and a pair of inwardly extended leg sections on opposite sides of said central web section;
- b) a longitudinally extended web member interposed between said opposing pair of flanges and having a pair of longitudinally extended sides each of which are in contact engagement along the central web section of a corresponding one of said pair of opposing flanges;
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- c) said web member comprising one or more convoluted sections with alternating protrusions that extend laterally and are adjacent along a portion thereof to a corresponding opposite pair of said leg sections of said flanges;
- d) means for securing said sides of said web member to said central web section of said flanges and for securing said protrusions to said adjacent leg sections of said flanges; and
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- e) an end plate secured to said opposing flanges and to said web member thereby structurally protecting said beam member and providing for the capability of interconnecting said beam member.

2. A beam member as defined in claim 1, wherein said inwardly extending leg sections of said opposing flanges are recessed to form a ledge for receipt of said end plate.

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3. A beam member as defined in claim 2, wherein said inwardly extending leg sections of said opposing flanges are recessed by an amount equal to one-half of a thickness of said end plate.

4. A beam member as defined in claim 1, wherein said web member and said flanges are coextensive in length.

5. A beam member as defined in claim 1, wherein said web member is formed of a sheet of metal and said flanges are formed of a sheet of metal.

6. A beam member as defined in claim 5, wherein said sheet of metal for forming said web member has characteristics that are distinct from the characteristics of said sheet of metal for forming said flanges.

7. A beam member as defined in claim 6, wherein said sheet of metal for forming said web member has a thickness that is distinct from the thickness of said sheet of metal for forming said flanges.

8. A beam member as defined in claim 1, wherein said means for securing said web member to said flanges comprises weldments.

9. A beam member as defined in claim 1, wherein said means for securing said protrusions to said leg sections comprises weldments joining said adjacent portions of said protrusions and said leg sections.

10. A beam member as defined in claim 1, wherein said flanges are adapted to be penetrable by hand-driven fasteners.

11. <sup>An improved beam</sup>  
~~A beam~~ member, comprising:

- a) a pair of opposing, generally C-shaped flanges, each of which comprises,
- b) a longitudinally extended central web section having a pair of opposite side portions,
- c) a pair of leg sections, one each of which extends inwardly from a corresponding one of said opposite side portions of said central web section and,
- d) an in-turned portion of each of said leg sections;
- e) an upright web interposed between said opposing flanges and having a pair of opposite side portions that are in contact engagement with a central web section of a corresponding one of said flanges;
- f) one or more convoluted sections of said web comprising laterally extended, alternating protrusions, any alternating pair of which substantially spans the distance between said pair of leg sections of each of said flanges;

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g) means for securing said side portions of said upright web to a corresponding one of said central web sections of said flanges and means for securing said protrusions to said leg sections; and

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(h) an end plate secured to said opposing flanges and to said web member thereby structurally protecting said beam member and providing for the capability of interconnecting said beam member, wherein said inwardly extending leg sections of said opposing flanges are recessed by an amount equal to one-half of a thickness of said end plate to form a ledge for receipt of said end plate.

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